Marine Corps Warfighting Laboratory

The Marine Corps Warfighting Laboratory was established in October 1995 as a critical engine for change within the Marine Corps Expeditionary Force Development Process. The Lab conducts concept-based experimentation to develop and evaluate tactics, techniques, and procedures (TTPs), as well as technologies, in order to provide the warfighter with enhanced future warfighting capabilities. These technologies and TTPs are field tested in concept-based experiments conducted with the operating forces.

Marine Corps experimentation is a key enabler of naval transformation, and the Lab recognizes that there are three worlds of innovation and transformation–solving immediate problems, realizing the next service, and charting a way for the service after next.

Operational experimentation benefits the warfighter by developing capabilities to solve immediate problems facing the current force. Under Project Metropolis, the Lab has worked closely with the operating forces in the development of urban tactics, techniques and procedures, resulting in a Basic Urban Skills Training (BUST) package. The combat experience of Third Battalion, Seventh Marines during Operation Iraqi Freedom I (OIF-I) highlighted the value of BUST training and, at the request of the First Marine Division, the Lab developed a preparatory training package for all its infantry battalions deploying for OIF II. BUST,

which has transitioned to the Training and Education Command, is planned to be provided to OIF III units.

The Lab serves as the Marine Corps access point to the larger science and technology (S&T) communities, such as the Office of Naval Research (ONR) and Defense Applied Research Program Activity. Capitalizing on this capability, the Deputy Commandant for Combat Development designated the Lab as executive agent for Operation Respond and the Marine Corps Improvised Explosive Device Working Group (IED WG). Operation Respond is a Secretary of the Navy initiative that provides a venue for Marines to identify emerging Operation Enduring Freedom (OEF) and OIF needs, and serves as a mechanism for the S&T communities to rapidly respond to their requests. Some success stories from Operation Respond include several new and improved types of body armor, dust abatement solutions, explosive resistant coating, unmanned ground and aerial vehicle fielding and improvements, and language translator support.

Established in December 2003, the IED WG brings an increased focus on this particular high-profile threat to forces operating in Iraq and Afghanistan. The IED WG is comprised of Marine active and reserve personnel, along with civilian contractors and representatives from the ONR the Navy Explosive Ordnance Disposal Technology Division and Marine Corps Systems Command (MCSC). The IED WG works closely with MCSC and other Services to identify and develop technology, programs, and procedures to address the IED threat, and it maintains close ties with other organizations involved in the IED arena. The IED WG also serves as the Marine Corps conduit to the Joint Integrated Process Team for IED Defeat, headquartered in the Pentagon. To date, the IED WG has identified and facilitated the delivery of a radio frequency jamming capability, protective armor and clothing, robots, X-ray detection devices, thermal imagers, and other items of equipment. Current high priority projects include high-powered radio frequency jammers, a counter to predetonation devices for IEDs, and change-detection technology to identify IEDs with airborne platforms and sensors.

The Lab also conducts experimentation to identify requirements and solutions to achieve the capabilities required by the next service. This is accomplished through our Sea Viking experimentation efforts that are focused on operationalizing the Distributed Operations (DO) and Ship To Objective Maneuver (STOM) future warfighting concepts.

Sea Viking 2004 (SV 04) experimentation focused on tactical-level on the move/over the horizon (OTM/OTH) communications and position location information (PLI). At the request of Marine operating forces, the Lab's Expeditionary Tactical Communications System (ETCS), which provides OTM/OTH voice communications and PLI, will be assessed in Iraq where it will augment legacy systems. Sea Viking 04 also saw the initial development and assessment

of a true on-the-move battalion combat operations center.

Building on previous experimentation, the Sea Viking 2006 (SV 06) campaign will examine enhanced training and equipment to enable a forward deployed Marine Air Ground Task Force (MAGTF) to conduct and support Joint Forcible Entry Operations. SV 06 will conduct live force experimentation of the emerging DO concept. The intent of this initiative is to examine the employment of networked forces over an extended battlefield to gather information, exercise influence, interdict selected targets, and support other naval and joint operations. DO will enhance the MAGTF commander's ability to locate enemy forces and engage them with capabilities, ranging from close air support to direct assault. SV 06 will also examine a sea-based battalion OTH Ship to Objective Manuever assault, seeking to exploit the results of the MAGTF's distributed operations.

The Lab also assists in the development of the service after next through long-range, open-ended wargaming, which enables the Marine Corps to address emerging threats and capabilities, and support concept development.

The Marine Corps Warfighting Laboratory is a focal point for exploration of future warfighting concepts and experimentation in support of both the Marine Corps combat development process and the Marine Corps contribution to Joint Concept Development and Experimentation, ultimately leading to the transformation of expeditionary warfighting forces for the future.